

Hong Kong-Zhuhai-Macao Bridge

Sanya Edition Hotel



25-Year
Limited Warranty

Over 6,000,000 M2
Installed Worldwide



Fire Resistance Class Bfl-s1



● Fuzhou Straits Cultural Art Center



dasso
Global Innovator of Bamboo Products

WOOD N' BEYOND
we stand behind what you stand on

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The dasso Group, based in Hangzhou, China, has been the world’s leader in innovative bamboo products for more than 25 years. With 7 manufacturing facilities, over 1000 employees, a Design and Research Center, and over 40 patents to date, dasso’s mission is to advance the innovative use of bamboo throughout the world.

Introduction

dasso incorporates dasso's patented fusion technology to manufacture superior bamboo products for both commercial and residential outdoor applications. The exterior panels are milled into decking, Cladding, Soffit, lumber and half panels.

dassoXTR and dassoCTECH products are produced using a patented fusion treatment and have a solid fused bamboo fiber construction. Products are all approximately 1860mm long (see individual products for exact length) . All dassoXTR products are composed of 87% bamboo (*Phyllostachys pubescens*) and 13% phenolic resin. All dassoCTECH products are composed of 84% bamboo (*Phyllostachys pubescens*) , 3% ceramix® nano particle and 13% phenolic resin.



Decking

Reversible face
Structural T&G end match

Cladding

Simple, easy hidden fastener system
Modular T&G end match installation



Soffit

Easy hidden fastener system
Structural T&G end match

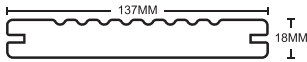
Lumber and Panels

Wide range of usage
Flexible for customized production

● Decking



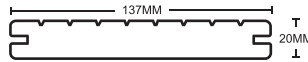
dassoXTR Reeded (oiled)



● XD18-SG2-5TG-PSR



dassoXTR V-groove (unfinished)



● XD20-SG2-5TG-USV



dassoCTECH

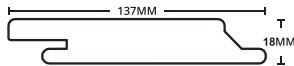


T&G

● Cladding



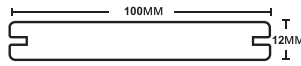
dassoCTECH



● ES18-MSL-5TG-PSS



dassoXTR

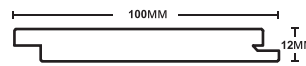


● XS12-100-6FT-PSS

● Soffit



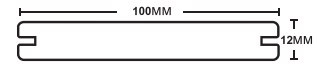
dassoCTECH



● ES12-100-5TG-PSS



dassoXTR

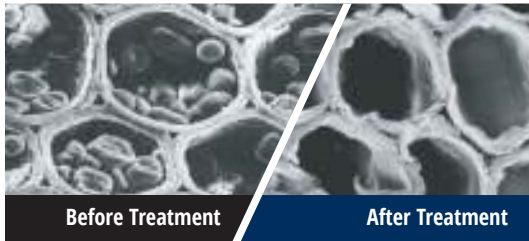


● XS12-100-5TG-PSS

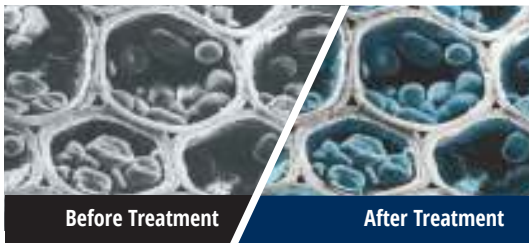
ITEM NUMBER	DESCRIPTION	THICKNESS	WIDTH	LENGTH	EDGES	ENDS	PRIMED WITH
■ XD20-SG2-5TG-PSR ■ ED20-SG2-5TG-PSR	Reeded Decking Double Side Groove	20mm	137mm	1850mm		T&G	WOCA Oil
■ XD20-SG2-5TG-PSV ■ ED20-SG2-5TG-PSV	V-groove Decking Double Side Groove	20mm	137mm	1850mm		T&G	WOCA Oil
■ XD18-SG2-5TG-PSR ■ ED18-SG2-5TG-PSR	Reeded Decking Double Side Groove	18mm	137mm	1850mm		T&G	WOCA Oil
■ XD18-SG2-5TG-PSV ■ ED18-SG2-5TG-PSV	V-groove Decking Double Side Groove	18mm	137mm	1850mm		T&G	WOCA Oil
■ XS18-MSL-5TG-PSS ■ ES18-MSL-5TG-PSS	Cladding Double Side Groove	18mm	137mm	1850mm		T&G	WOCA Oil
■ XS12-100-6FT-PSS ■ ES12-100-6FT-PSS	Cladding Double Side Groove	12mm	100mm	1860mm		T&G	WOCA Oil
■ XS12-100-5TG-PSS ■ ES12-100-5TG-PSS	Soffit Double Side Groove	12mm	100mm	1850mm		T&G	WOCA Oil

Dasso Physical Heat Treatment

Bamboo on molecular level before (left) and after(right) the physical heat treatment: before the sugar molecules are still visible, after the treatment they have disappeared. With this treatment bamboo is no longer a feeding place for fungi and micro-organisms.



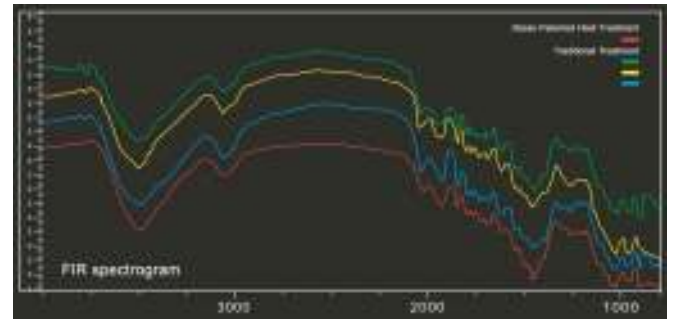
dassoXTR patented fusion process extracts the sugars and starches from the bamboo fibers and replaces it with phenolic resins. Then the impregnated fibers are compressed to create a very hard, dense and durable Fused Bamboo® that prevents bacteria, fungus and other micro-organisms from attacking dassoXTR.



dassoCTECH is crystalized the fibers with CeramiX® particles, impregnated it with phenolic resin (the same resin found in bowling balls), then compressed to form Fused Bamboo. Because Fused Bamboo is now fully impregnated with CeramiX® particles that crystalizes the nutrients from attracting bacteria, fungus, molds or insects, the fibers does not rot under exposed environments.

Change Bamboo's Hydrophilic Hydroxyl

By decomposing hemicellulose in bamboo, the hydrophilic hydroxy groups can be changed into non-hydrophilic hydroxyl , so that DassoXTR can be adapted to a variety of complex climate environment, lasting longer performing well without problem ,such as mould/ fungus, cracking etc.



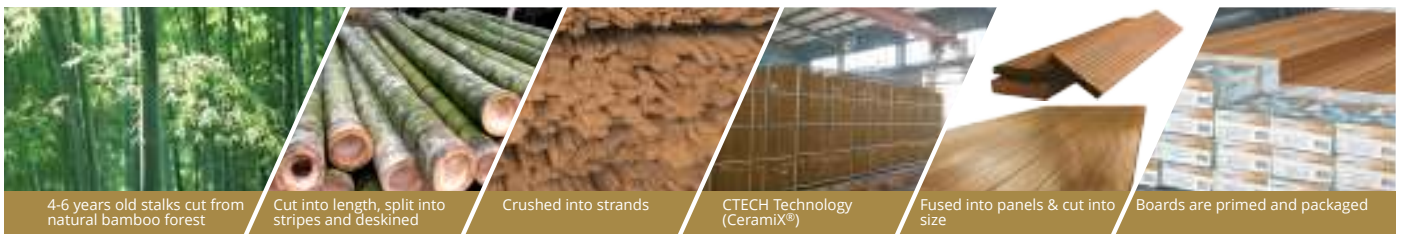
With the challenge Dasso started to research and test various existing methods to protect bamboo in outdoor circumstances. The initial tested wood protection methods, which are also often used by other bamboo suppliers, were not satisfying and did not perform according to Dasso's quality standard. Therefore Dasso decided to develop its own way to solve the problem by modifying the density of bamboo and combining this with a special heat treatment process to improve the durability and stability of bamboo, referred to as "density-thermo treatment" in this text. In 2008 Dasso's invention is registered internationally. In 2009 the relevant laboratory and practical tests were done, which proved that the density-thermo treatment is the right method(and currently the only efficient solution) to make bamboo suitable for outdoor applications.



Fused Bamboo® Process



CeramiX® Bamboo Process





Environment Friendly

dassoXTR

dassoCTECH

Ready for harvest after 4-6 years
[compared to up to 100 years for
hardwood species]—no deforestation



Mould Resistance

dassoCTECH

Class 0

[DIN EN ISO 846: 1997-10]

[DIN EN 152: 2011]



Fire Resistance

dassoXTR

ASTM E84: Class A;
CAN/ULC S107-10: Class A
EN13501-1: Bf1-s1

dassoCTECH

Bfl-s1 EN: 13501-1



Termite Resistance

dassoXTR

Termite Resistance Level: Class 8
[AWPA-2012, AWP A E1-09]

dassoCTECH

Reticulitermes santonensis
DC D(durable)
[EN 117]



Hard & Durable

dassoXTR

Hardness: 116MPa [GB/T 1941-2009],
Brinell > 9.5Kg/mm² [EN1534], harder
than any other hardwood.

Durability: Class 1 [EN350], tested
according to ENV 807

dassoCTECH

Brinell hardness: 79.2 N/mm²

Class 1

[CEN/TS 15083-1: 2005][EN 350: 2016]

Class 1

[CEN/TS 15083-2: 2005][EN 350: 2016]



Warranty

dassoXTR

dassoCTECH

Applicable Residential and
Commercial Warranty

Performance Comparison

Swelling Rate of Water Absorption

No.	Species	Width Swelling Rate of Water Absorption (Immersed in water for 24h)	Thickness Swelling Rate of Water Absorption (Immersed in water for 24h)
1	dassoCTECH	0.60 %	4.0 %
2	dassoXTR	0.30 %	0.40 %
3	Teak	0.40 %	6.10 %
4	Ipe	0.50 %	0.70 %
5	Red Cedar	0.60 %	1.70 %
6	Merbau	0.60 %	0.60 %
7	Red Meranti	0.60 %	0.30 %
8	Carbonized Pine	1.00 %	0.50 %
9	CCA Pine	1.30 %	1.80 %

Elastic Modulus

No.	Species	Elastic modulus (Gpa)
1	Ipe	20.62
2	Merbau	16.23
3	dassoCTECH	16.70
4	dassoXTR	15.38
5	Teak	11.20
6	Carbonized Pine	11.18
7	CCA Pine	9.66
8	Red Meranti	7.08
9	Red Cedar	3.76

Hardness / Wear-resistance

No.	Species	Hardness (Mpa)
1	Ipe	119.10
2	dassoXTR	119.00
3	dassoCTECH	79.20
4	Merbau	61.90
5	Teak	55.80
6	Red Meranti	47.10
7	Carbonized Pine	44.30
8	Red cedar	44.10
9	CCA Pine	43.10



Nanjing Youth Olympic Games

Summary Of Performance Comparison

Competitive Material	dassoCTECH	dassoXTR	Ipe	Balau(Bangkirai)	Teak	Meranti Batu	Western Red Cedar
Density(kg/m³)	1,200	1,100	1,060	850	655	480	370
Stiffness MOE(MPa)	16,700	14,490	22,070	16,950	11,280	11,390	7,660
Janka Hardness(N)	17,659	16,992	15,620	7,120	4,740	2,460	1,560
Durability(Class)	1	1	2	2	1-3	3-4	2

User Information



Surface of DassoXTR with different maintenance and cleaning scenarios: wethered, dirty decking(left), wethered, cleaned decking(middle),and reiled decking(right)

Appearance and color

dassoXTR and dassoCTECH are natural product, which can vary in color, grain and appearance. Color will change over time depending on the maintenance schedule. The boards have a brown to dark brown color when installed, which turns into a lighter caramel color several weeks after installation. Without further maintenance the color gets greyish relatively fast (similar to most other wood species). If a brown color is preferred, maintenance should be done with exclusive exterior oil teak color or a comparable water based oil/saturator with teak pigments (for the unfinished version).

dassoXTR and dassoCTECH shows similarity to other hardwoods in grain and structure. The characteristic bamboo nodes however can still be recognized and gives the product a special and lively look.

Normal phenomena

Cracks on the surface and on the end of the boards can arise from the different drying characteristics of the surface and cross cut ends. This does not affect the stability of the board. The surface sides of the boards will get rougher over time and will form (small) splinters as a result of continuous water absorption and desorption due to dry and wet climate periods. Dimensional change or cupping of the boards can occur after installation. These phenomena are normal for most hardwood species and dasso's.

The surface of decking is weathered under influence of wind, rain, frost and sunshine(uv).As a result, the surface turns grey, dirty and cracks/splinters will appear. So it is very important to use the outdoor decking oil to brush it then let it recover.

Swimming pool

If dassoXTR or dassoCTECH is to be used around swimming pool areas, the following has to be taken into account: dassoXTR or dassoCTECH is a natural (wood like) product and can therefore not be referred to as a "bare foot" product. As with any wooden product used outdoors, there is always a risk of formation of splinters, however splinters from dassoXTR or dassoCTECH are normally smaller than (tropical) hard wood splinters. A regular maintenance with oil (more frequently necessary around swimming pools) is required to reduce the formation of splinters. Furthermore, regular maintenance with the silicium carbid broom or -disk is required to effectively remove splinters and smoothen the surface.

Installation System

Before installation

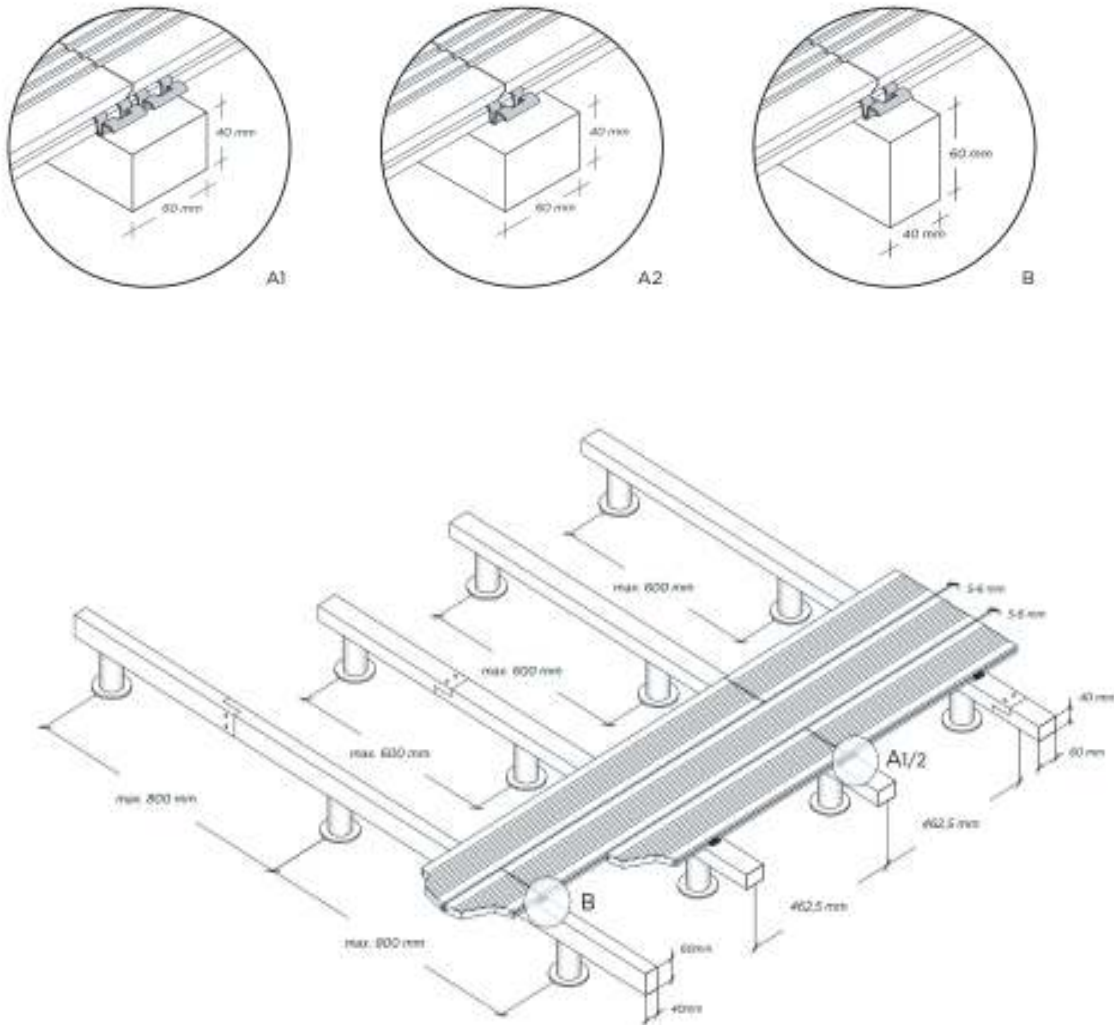
- Water logging under the decking must be avoided by preparing a water permeable ground structure. This can be achieved by sand layers and gravel dispersion above.
- Use cement/stone tiles 40-50 mm thick or pedestals, to support the sub frame. See drawing.
- Place a rootbarrier under the tiles to prevent weeds to grow from under the decking.
- Install the decking boards with a slope of 1-2% to enable water to run off the surface.
- Ensure good ventilation of the decking by keeping at least 20 mm space at walls and obstacles and avoid closing the terrace on the sides.
- When the surface underneath the decking is not fast drying, there should be at least 100 mm distance between the decking and the surface underneath the floor.
- Use sub frame joists with the minimum size of 40x60 mm. Suitable joists are those with the same durability class as the decking; if using steel frame, the min. thickness is 3mm. Avoid direct contact with the earth.
- Install the boards on sub frame joists with 462.5 mm space between the joists (centre- to-centre).
- Always install cut off outdoor boards on at least 3 sub frame joists.

Installation

- Determine the surface side of the boards (waved or flat surface)
- Use fasteners or other suitable fasteners in the following sequence. Press fastener in the groove of one board
- Pre-drill the screw holes. On hardwood/ bamboo: use 3.2-3.5 mm extended drill (11 cm long) in order to pre drill deep enough. Mount the screw without fully tightening.
- Install the following board.
- Tighten the screw in the clip and the sub beam.
- Use approx. 20/17/14 fasteners per m², this is depending on the type or board 137/155/ 178mm wide. When the tongue and groove are connected on the sub beam use 2 fasteners, 1 for every board.
- Only use the included stainless steel decking screws (4.5 x 30 mm).



Visit www.dassoxtr.com/www.dassoCTECH.com to check
detailed installation instructions



Maintenance

Directly after installation

- Pre oiled: apply 1 additional coat of exterior oil directly after installation. Follow the instructions of the oil.
- Unfinished: apply 2 coats of water based decking oil/saturator directly after installation. Follow the instructions of the oil/saturator supplier.

Cleaning

- Soak dassoXTR/dassoCTECH with plenty of water. If possible use a garden hose.
- Recommended that mix exterior cleaner with water in the ratio 1:2 and apply it. If the decking is extremely dirty, exterior cleaner may be used undiluted. Clean the decking with a silicium carbid brush or sanding machine. Scrub the soaked material lengthwise following the bamboo grain until the material appears clean. If the decking has a flat surface, first scrub under an angle of 45 degrees before scrubbing in the length direction. When using a sanding machine this is not necessary. Repeat the cleaning if necessary. Clean the surface carefully with water.
- Leave dassoXTR/dassoCTECH to dry for approx. 24 Hours. The material must be completely dry before oil treatment can be done.

Application

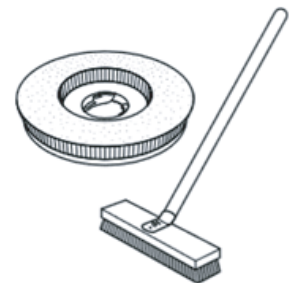
- Apply in dry weather only. Avoid direct sunlight and high temperatures.
- Stir the oil thoroughly before use. Apply an even thin coat of oil with a brush.
- The oil is cream-coloured when it is wet.
- After a few minutes, the material has an oily appearance as the water is evaporating.
- Wipe off any excess oil with clean cotton cloths after no more than 5-10 minutes.
- Take particular care to remove excess oil from joints and grooves.
- Repeat the above process.
- When the material is dry, it may be polished with a polishing pad or polishing machine to ensure an extra hard-wearing surface. It takes 24 to 48 hours for the oil to harden thoroughly, depending on weather conditions and outdoor temperature. The material should not be exposed to water during this period.

Storing dassoXTR/dassoCTECH

Store dassoXTR in a dry, cool place protected against dust and direct sunlight.



● Fuzhou Straits Cultural Art Center



Warranty

dassoXTR and dassoCTECH offers a 25 years limited warranty against material defects in workmanship and warrant that the material will not suffer structural damage due to rot, decay, or termites for that period of time, as long as it has been installed and maintained according to our guidelines.

Scope

- The dassoXTR outdoor board is a natural forest product, which varies in color, grain and appearance. Color changes over time depending on the maintenance schedule. Color change can not be a reason to make a claim.
- This warranty does not cover damage caused by misuse, accidents, insect infestation, force majeure and damage caused by other, in normal residential unusual, circumstances.
- Also not covered are purely visual impairments such as imprints, joints, discoloration by light, seasonal climate-related deformation or wear of the surface coating. Damage resulting from improper installation, maintenance, cleaning or maintenance of the surface coating, mechanical or chemical damage are also excluded from this warranty.
- This warranty statement supersedes all previous statements; the granting of the manufacturer's warranty applies only to the current version.
- Cracks on the surface and on the end of the boards can arise from the different drying characteristics of the surface and cross cut ends. This phenomenon is normal for most wood species and can not be a reason to make a claim.
- The surface sides of the boards will get rougher and will splinter over time as a result of constant shrink and swell of the boards due to dry and wet climate periods. This phenomenon is normal for most wood species and can not be a reason to make a claim.
- Dimensional change or cupping of the boards can occur after installation. This phenomenon is normal for most wood species and can not be a reason to make a claim.
- The guarantee extends to A-grade products only.
- The guarantee applies only to the original purchaser and can not be transferred.



Warranty Conditions

To be able to make use of the warranty the decking must be installed according to the installation instructions. Please read our installation instructions carefully, before installing the floor. No claims can be accepted in case of improper installation!

- This warranty applies in addition to the normal legal rights of the buyer, including the rights of the buyer against the seller.
- If a claim is granted before installing the material, faulty planks are replaced free of charge. No claims can be accepted after installing the material if the buyer could have detected the defects before installation. This warranty does not cover damage that was caused by Third parties (eg transport damage).
- If defects occur after installation, Dasso reserves the right to either repair the defect or to offer material free of charge to the buyer. If the defective product is no longer in the product range, an equivalent from the current range will be supplied.
- A claim does not lead to an extension of the warranty period.
- The cost for the replacement of material and other charges are not included in the warranty.

Settlement of the guarantee

The claim must be made in writing, within 30 days, to the Dasso dealer/seller, a Dasso subsidiary or directly to Dasso headquarter.

Dasso reserves the right to check the claimed damage.





● Hong Kong-Zhuhai-Macao Bridge



● Anantara Veli Maldives Resort - Maldives



● Jilin Vanke Town in China



● Olympic Garden - Songyuan



● Xilai Ancient Town - Chengdu



● Paal17-Texel - The Netherlands



● Barcelona commercial center - Spain



● Banana Island



● Jiujiangtang - Shanghai



● Samsung R&D Center - Korea



● Shanghai Pinghe Bilingual School - China



● Private villas - Ho Chi Minh City



● Headquarter of Suzhou Gold Mantis



● Gardenhome Village, Bangkok



● Private Villas in Lahore, Pakistan



● Chendu Luxihe Weland Park



● Four Seasons Hotel In Sanya Hainan



● Chengdu water park

dassoXTR
dassoCTECH

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Wood and Beyond Ltd
877 Finchley Road
London
NW11 8RR

0203 869 0900
0800 690 6864
info@woodandbeyond.com
www.woodandbeyond.com